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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	10/629,434
Filing Date	July 29, 2003
First Named Inventor	DiFazio et al.
Art Unit	2661
Examiner Name	Not Yet Known
Attorney Docket Number	I-2-0360.1US

Total Number of Pages in This Submission

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Response to Missing Parts/ Incomplete Application
  - ☐ Response to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
- ☐ After Allowance communication to Technology Center (TC)
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☒ Other Enclosure(s) (please Identify below):

Communication re Favorable IPER by IPEA/US in Corresponding International Application; Copy of Transmittal of International Preliminary Examination Report; Copy of Published International Claims

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Steven J. Gelman Reg. No. 41,034 Volpe and Koenig, P.C.
Signature	
Date	July 21, 2004

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.

Typed or printed name	Steven J. Gelman		
Signature		Date	July 21, 2004

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the **PATENT APPLICATION** of:	
	DiFazio et al.
Application No.:	10/629,434
Confirmation No.: 6031	
Filed:	July 29, 2003
For:	CDMA TDD RECEIVER
Group:	2661
Examiner:	Not Yet Known

Our File: I-2-0360.1US

Date: July 21, 2004

COMMUNICATION RE FAVORABLE IPER BY IPEA/US IN CORRESPONDING INTERNATIONAL APPLICATION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This communication is to advise the Examiner of the favorable International Preliminary Examination Report (IPER) issued by the United States Patent and Trademark Office acting as International Preliminary Examination Authority in a corresponding international application. A copy of the IPER is enclosed.

The original PCT claims correspond to the claims in this U.S. application. A copy of the approved claims as published is also enclosed.

In view of the fact that PCT claims 1-14 have all been found to meet the international standards of patentability, prompt examination and allowance are respectfully requested.

Respectfully submitted,

DiFazio et al.

By _____
Steven J. Gelman
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SJG/slp
Enclosures (2)

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:
ANTHONY S. VOLPE
VOLPE AND KOENIG, P.C.
UNITED PLAZA, SUITE 1600
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

PCT

NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

Date of Mailing *(day/month/year)*	01 JUL 2004
Applicant's or agent's file reference I-2-0360.1WO	**IMPORTANT NOTIFICATION**

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US03/23681	29 July 2003 (29.07.2003)	31 July 2002 (31.07.2002)

Applicant

INTERDIGITAL TECHNOLOGY CORPORATION

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.

2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.

3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/US	Authorized officer
Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703)305-3230	Melanie Jagannathan Telephone No. 703-305-3900

Form PCT/IPEA/416 (July 1992)

PATENT COOPERATION TREATY

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VOLPE & KOENIG, P.C.

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference I-2-0360.1WO	**FOR FURTHER ACTION**	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/US03/23681	International filing date *(day/month/year)* 29 July 2003 (29.07.2003)	Priority date *(day/month/year)* 31 July 2002 (31.07.2002)
International Patent Classification (IPC) or national classification and IPC IPC(7): H04B 7/216 and US Cl.: 370/335,342		
Applicant INTERDIGITAL TECHNOLOGY CORPORATION		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

   ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 0 sheets.

3. This report contains indications relating to the following items:

   - I ☒ Basis of the report
   - II ☐ Priority
   - III ☐ Non-establishment of report with regard to novelty, inventive step and industrial applicability
   - IV ☐ Lack of unity of invention
   - V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - VI ☐ Certain documents cited
   - VII ☐ Certain defects in the international application
   - VIII ☐ Certain observations on the international application

Date of submission of the demand 27 February 2004 (27.02.2004)	Date of completion of this report 21 June 2004 (21.06.2004)
Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703)305-3230	Authorized officer Seema Rao Telephone No. 703-305-3900

Form PCT/IPEA/409 (cover sheet)(July 1998)

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/US03/23681

I. Basis of the report

1. With regard to the elements of the international application:*

☒ the international application as originally filed.

☒ the description:
pages 1-24 as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____.

☒ the claims:
pages 25-28, as originally filed
pages NONE, as amended (together with any statement) under Article 19
pages NONE, filed with the demand
pages NONE, filed with the letter of _____.

☒ the drawings:
pages 1-10, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____.

☐ the sequence listing part of the description:
pages NONE, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____.

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language _____ which is:

☐ the language of a translation furnished for the purposes of international search (under Rule23.1(b)).

☐ the language of publication of the international application (under Rule 48.3(b)).

☐ the language of the translation furnished for the purposes of international preliminary examination(under Rules 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in printed form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages NONE

☐ the claims, Nos. NONE

☐ the drawings, sheets/~~fig~~ NONE

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

** Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).*
*** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.*

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/US03/23681

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. STATEMENT

Novelty (N)	Claims 1-14	YES
	Claims NONE	NO
Inventive Step (IS)	Claims 1-14	YES
	Claims NONE	NO
Industrial Applicability (IA)	Claims 1-14	YES
	Claims NONE	NO

2. CITATIONS AND EXPLANATIONS

Claims 1-14 meet the criteria set out in PCT Article 33(2)-(4), because the prior art does not teach or fairly suggest processing received samples that do not require a transport format combination code list or code list valid indicator, receiving a TFCI value for timeslot and processing the samples that requiring TFC code list or code list valid indicator, determining if full DTX is allowed in timeslot, if not setting full DTX indicator for previous frame to false, if allowed, determining if special burst detected and if so setting full DTX indicator to true, determining whether current timeslot is allocated to CCTrCH, whether current timeslot contains a repeated TFCI value for CCTrCH.

---------- NEW CITATIONS ----------

NONE

CLAIMS

What is claimed is:

1. A method for performing transport format combination indicator (TFCI) processing in a wireless communications system, comprising the steps of:

collecting received samples for a timeslot;

processing the received samples for the timeslot that do not require a transport format combination (TFC) code list or a TFC code list valid indicator;

receiving a TFCI value for the timeslot;

processing the received TFCI at the timeslot rate for the timeslot;

producing the TFC code list and the TFC code list valid indicator; and

processing samples in the timeslot that require the TFC code list or the TFC code list valid indicator.

2. A method for full discontinuous (DTX) control in a receiver in a wireless communication system, comprising the steps of:

(a) determining if full DTX is allowed in the current timeslot;

(b) if full DTX is not allowed in the current timeslot, then setting a full DTX indicator for the previous frame to false and ending the method;

(c) if full DTX is allowed in the current timeslot, then

(d) determining if a special burst has been detected;

(e) if a special burst has been detected, then setting the full DTX indicator for the previous frame to true and ending the method;

(f) if a special burst has not been detected, then

(g) determining if a transport format combination indicator (TFCI) has been accepted;

(h) if the TFCI has been accepted, then setting the full DTX indicator for the previous frame to false and ending the method; and

(i) if the TFCI has not been accepted, then ending the method without setting the full DTX indicator for the previous frame.

3. The method according to claim 2, wherein step (a) includes determining whether the receiver is operating in synchronization phase one.

4. The method according to claim 2, wherein step (d) includes evaluating a received TFCI value; and

comparing the quality of a received TFCI with a first threshold, whereby a special burst is detected if the received TFCI value is zero and if the quality of the received TFCI meets the first threshold.

5. The method according to claim 2, wherein step (g) includes comparing the quality of a received TFCI with a second threshold; and

evaluating a TFCI valid indicator, whereby the TFCI is accepted if the quality of the received TFCI meets the second threshold and the TFCI valid indicator is true.

6. The method according to claim 2, further comprising the step of using the full DTX indicator for the previous frame in an end of full DTX detection algorithm, wherein a determination is made whether a coded composite transport channel has exited full DTX.

7. The method according to claim 2, further comprising the step of using the full DTX indicator for the previous frame in a suppress during full DTX algorithm, wherein if the full DTX indicator is true, further transmission of transport blocks and their corresponding cyclic redundancy checks is suppressed.

8. A method for generating a transmit power control (TPC) bit in a wireless communication system, comprising the steps of:

receiving a measured signal to interference ratio (SIR) value, a virtual SIR value, and a full discontinuous transmission (DTX) indicator for a previous frame;

evaluating the full DTX indicator;

if the full DTX indicator is false, then using the measured SIR to generate the TPC bit and ending the method;

else if the full DTX indicator is true, then using the virtual SIR value to generate the TPC bit.

9. A method for improving a decoded transport format combination indicator (TFCI) value in a wireless communications system, comprising the steps of:

(a) determining whether the current timeslot is the first timeslot allocated to a coded composite transport channel (CCTrCH);

(b) if the current timeslot is the first allocated timeslot, then using the decoded TFCI value from the current timeslot for constructing a transport format combination (TFC) code list and setting a TFC code list valid flag;

(c) determining whether the current timeslot contains a repeated TFCI value for the CCTrCH;

(d) if the current timeslot contains a repeated TFCI value, then combining all of the decoded TFCI values to obtain an improved estimate of the TFCI word, determining if the improved estimate of the TFCI word is different than a previous estimate of the TFCI word, and if the improved estimate of the TFCI word is different, then using the improved estimate of the TFCI word for constructing the TFC code list and setting the TFC code list valid flag;

(e) determining if the current timeslot is the last timeslot;

(f) if the current timeslot is not the last timeslot, then waiting for the next timeslot and returning to step (a);

(g) if the current timeslot is the last timeslot, then ending the method.

10. A method for obtaining a transport format combination indicator (TFCI) value, comprising the steps of:

collecting received samples;

processing the received samples to obtain soft TFCI symbols;

decoding the soft TFCI symbols to obtain a TFCI value;

evaluating the TFCI value to determine if it is a valid index of a transport format combination set (TFCS);

if the TFCI value is a valid index of the TFCS, then

using the TFCI value obtained in said decoding step and ending the method;

if the TFCI value is not a valid index of the TFCS, then

selecting a valid TFCI value and using the selected TFCI value.

11. The method according to claim 10, wherein said selecting step includes selecting a decoded TFCI value from a previous frame.

12. The method according to claim 10, wherein said selecting step includes selecting a decoded TFCI value from a previous minimum transmission time interval.

13. The method according to claim 10, wherein said selecting step includes selecting a TFCI value corresponding to the first entry in the TFCS.

14. The method according to claim 10, wherein said selecting step includes selecting a TFCI value from a list of recently decoded TFCI values, wherein the selected TFCI value has been output the most frequently.